



County of San Luis Obispo
Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

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COUNTY OF SAN LUIS OBISPO

June 2003

2002 Water Quality Report County Service Area #16—Shandon

To our customers

The County of San Luis Obispo is pleased to present this annual report describing the quality of your drinking water. We sincerely hope this report gives you the information you seek and have a right to know.

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

YOUR WATER SUPPLY

Your water comes from two groundwater wells located in Shandon. The water is cleaned through a natural filtration process as it trickles down through the ground. During this process, water may also pick up contaminants found in the soil, either natural or man-made. Groundwater is normally very clean and is simply disinfected with chlorine to help minimize viral and bacterial contamination.

Source water assessments were completed for each well (Well #4 and Well #5) in August 2002. The sources are considered most vulnerable to the following activities for which no associated contaminants were detected: grazing, utility stations-maintenance areas, historic gas stations, and high density septic systems. A copy of the complete assessment may be viewed at:

Department of Health Services
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013

or

County of San Luis Obispo
Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

You may also request a summary of the assessment be sent to you by contacting Kurt Souza, DHS District Engineer, Santa Barbara District at (805) 566-1326, or John Beaton, Water Quality Manager, County of San Luis Obispo at (805) 781-5111.

COMMUNITY PARTICIPATION

The San Luis Obispo County Board of Supervisors meets every Tuesday (except the 5th Tuesday in a month) at 9:00 a.m. in the board chambers located in the Government Center Annex, 1050 Monterey Street, San Luis Obispo. Agendas for all Board of Supervisors meetings are posted in some County libraries, the County Government Center, and on the Board of Supervisors internet web site at <http://www.co.slo.ca.us>.

WATER NOTES

The water in Shandon is considered hard, with an average concentration of 200 parts per million or 12 grains per gallon of hardness. Hardness in water is usually associated with two beneficial chemicals – calcium and magnesium. Hard water can inhibit the cleaning action of soaps and cause scale formation on plumbing fixtures.

It is purely a matter of preference whether an individual wishes to reduce the hardness of the water by using a water softener. A typical home water softener unit replaces the calcium and magnesium ions in your water with sodium. Soft water is more corrosive than hard water and can cause plumbing and soldering to corrode. Use of a softener also introduces salts into the waste stream which further deteriorates the ground water quality. The water in Shandon meets all Federal and State drinking water requirements and overall can be considered very good water.

KEY TERMS

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) and Public Health Goal (PHG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency and PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) – The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

Primary Drinking Water Standards (PDWS) – MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

GENERAL DRINKING WATER INFORMATION

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline, 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDs or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline, 1-800-426-4791.

Additionally, the EPA Office of Ground Water and Drinking Water maintains a website with useful information on drinking water. The address is www.epa.gov/safewater/. Additional information can be obtained by accessing the American Water Works Association's website at www.awwa.org, the DHS website at www.dhs.ca.gov/ps/ddwem/index.htm, or by calling John Beaton, Water Quality Manager, at 781-5111.

FOR MORE INFORMATION

If you have questions regarding this report, please contact John Beaton, Water Quality Manager, at (805) 781-5111 or Email: jbeaton@co.slo.ca.us.

WE'RE ON THE WEB!
WWW.SLOCOWATERQUALITYLAB.ORG

KEY TERMS (Continued)

Secondary Drinking Water Standards (SDWS) – MCLs for contaminants to protect the taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL) – The concentration of a contaminant that, if exceeded, triggers treatment or other requirement which a water system must follow.

No Standard (NS) – Contaminant for which there is no established MCL.

Not Detected (ND) – Contaminant is not detectable at testing limit.

Not Analyzed (NA) – Contaminant was not analyzed.

pCi/L – picoCuries per liter (a measure of radioactivity)

ppm – parts per million, or milligrams per liter (mg/L)

ppb – parts per billion, or micrograms per liter (µg/L)

CU – color units

NTU – Nephelometric Turbidity Unit

TON – Threshold Odor Number

LI – Langelier Index; Noncorrosive = Any positive value, Corrosive = Any negative value

SOURCES OF DRINKING WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- *Radioactive contaminants* which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Health Services (DHS) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water which must provide the same protection for public health.

OPERATIONS

The Shandon water system is assigned one operator. All operators who work for the County are certified by the California Department of Health Services (DHS). They are knowledgeable professionals dedicated to maintaining an excellent water system and providing you with the best quality water possible.

WATER TESTING

Water analyses are performed by the San Luis Obispo County Water Quality Laboratory. The lab is certified by the DHS as an environmental testing laboratory for bacteriological and chemical analyses. Federal and State requirements dictate that all regulatory analyses be performed by certified labs following approved procedures.

SYSTEM IMPROVEMENTS

Well No. 3 was recently determined to be inoperative due to holes in the well casing. This well was over 20 years old and has since been replaced by a new well (No. 5). The well replacement project was conducted on an emergency basis to ensure a adequate supply of water for both consumption and fire protection. The project was completed in less than two months.

Plans for the current year are to do some water main looping in the distribution system. Looping water mains minimizes dead ends within the distribution system to help provide high quality water to consumers at all times.

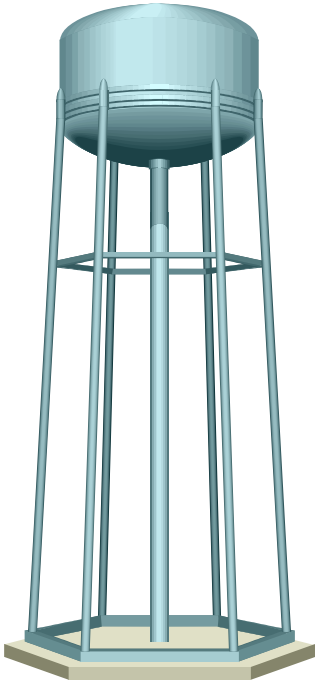
2002 Water Statistics

- **Shandon Water Production**
⇒ **48,767 million gallons**
- **Average Daily Demand**
⇒ **133,610 gallons**

WATER NEEDS

The Shandon water system currently provides water service to approximately 990 residents with an annual water production of 49 million gallons (150 acre-feet per year). The “Water Distribution System Master Plan for Shandon (CSA 16-1)” dated October 1994 estimated 534 total buildable lots. Assuming that water consumption per service connection remains constant and that no rezonings or annexations occur, water demand at build out may amount to approximately 70 million gallons per year (215 AFY).

The 1994 Master Plan estimated that on a hot summer day, community water usage soars to 2.85 times average day demand. With this in mind, maximum day demand may increase from its current estimated level of 0.38 to 0.54 million gallons at build out.



Based on this initial assessment of supply status, it appears that supplemental water is not needed to meet demands at build out, provided that extensive annexations to the service area do not occur. There is value in having more than one source of supply for a community, particularly in the event of a water quality emergency, collapse of a well casing, or other emergency.

All of these issues will be addressed more closely in the upcoming system master plan which is due for completion by Summer 2003. A complete system assessment will be done, improvements identified, and costs projected for bringing the Shandon water system up to current standards.

STORAGE NEEDS

A new water tank was constructed in 2000. At that time, a 212,000 gallon bolted steel tank was erected east of town at an elevation that pressurizes the water system without the need for pumping from the tank. This is a great operational improvement over the old arrangement and we hope that customers have noted the improvement in water pressure at their homes. The good news about the tank is that it was affordable at the time of construction with grant funding from a Community Development Block Grant. The not-so-good news is that it appears undersized to reliably meet existing customer needs during emergencies. A 350,000 gallon tank would be properly sized to fight a fire, sustain basic emergency needs to the community following a disaster, and to regulate the well cycle times. Staff will more closely evaluate storage volume needs over the next year and make recommendations along this line.

WATER CONSERVATION TIPS

OUTSIDE

- Water only as needed
- Mulch plants
- Water in the morning or evening
- Inspect for leaks and broken, blocked or misaligned sprinklers
- Replace unused lawn with a ground cover

INSIDE

- Install low-flow toilets and fixtures
- Wash full loads of dishes and clothes
- Fix leaks
- Turn off the faucet while washing dishes, shaving, brushing your teeth, or soaping in the shower
- Take shorter showers



2002 Water Quality Data for Shandon

Tables 1, 2, 3, 4, 5, and 6 list all of the drinking water contaminants that were detected from January 2002 through December 2002, unless otherwise noted. The presence of these contaminants in water does not necessarily indicate that the water poses a health risk. The DHS requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data may be more than one year old, but is still representative of the water quality.

Table 1 - Microbiological Contaminants

Contaminant (reporting units)	MCL	PHG (MCLG)	Range	Average	Potential Source of Contamination
Total Coliform Bacteria (MPN/100mL) (Distribution System)	More than 1 sample in a month with a detection	(0)	ND	ND	Naturally present in the environment
Heterotrophic Plate Count (CFU/mL) (Distribution System)	-----	(0)	ND—11	3	Naturally present in the environment

Table 2—Detection of Contaminants with a PRIMARY Drinking Water Standard

Barium (ppb)	1000	(2000)		120	Erosion of natural deposits
Fluoride (ppb)	2000	1000		200	Erosion of natural deposits
Gross Alpha Particle Activity (pCi/L)	15	-----	ND—2.1	1.4	Erosion of natural deposits
Nitrate as NO ₃ (ppm)	45	45	12—15	14	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

Table 3 - Detection of Contaminants with a SECONDARY Drinking Water Standard

Chloride (ppm)	500	-----	50—83	66	Runoff/leaching from natural deposits
Corrosivity (LI)	Noncorrosive	-----	0.1—0.2	0.2	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Odor - Threshold (TON)	3	-----	1.0—1.4	1.2	Naturally occurring organic materials
Specific Conductance (micromhos/cm)	1600	-----	500—610	560	Runoff/leaching from natural deposits
Turbidity (NTU) (Distribution System)	5	-----	0.06—0.57	0.21	Soil runoff
Total Dissolved Solids (mg/L)	1000	-----	350—470	410	Runoff/leaching from natural deposits
Sulfate	500	-----	57—95	76	Runoff/leaching from natural deposits

Table 4—Detection of Lead and Copper in Shandon Homes

Contaminant (reporting units)	MCL	MCLG	Number of Samples Collected	Date Collected	90th Percentile Level Detected	Number of Sites found above the AL	Potential Source of Contamination
Lead (ppb)	AL = 15	2	10	9/2002	ND	0	Internal corrosion of household water plumbing systems
Copper (ppb)	AL = 1300	170	10	9/2002	87	0	Internal corrosion of household water plumbing systems

Table 5 - Detection of Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors—Distribution System

Contaminant (reporting units)	MCL	PHG (MCLG) [MRDLG]	Range	Average	Potential Source of Contamination
Chlorine (ppm)	-----	[4]	1.17—1.61	1.44	Drinking water disinfectant added for treatment.

Table 6 - Detection of Unregulated Contaminants

Alkalinity as CaCO ₃ (ppm)	-----	-----		130	Runoff/leaching from natural deposits; seawater influence
Boron (ppb)	AL = 1000	-----	83—120	100	State regulations require us to monitor this contaminant while the State considers setting a limit on it.
Calcium (ppm)	-----	-----	60—76	68	Runoff/leaching from natural deposits; seawater influence
Chromium VI (ppb) (Hexavalent chromium)	-----	-----	1.0—1.1	1.1	Erosion of natural sources; discharge from steel and pulp mills and chrome plating
Hardness (ppm)	-----	-----	170—220	200	Generally found in ground and surface water
Magnesium (ppm)	-----	-----	4.6—6.3	5.5	Runoff/leaching from natural deposits; seawater influence
pH	-----	-----	7.67—7.68	7.68	Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	-----	-----	37—45	41	Runoff/leaching from natural deposits; seawater influence
Vanadium (ppb)	AL = 50	-----	ND—5.4	3.9	State regulations require us to monitor this contaminant while the State considers setting a limit on it.